The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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Ex parte BORJE S. ANDERSSON and ELIAS J. ANAISSIE

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Appeal No. 2006-0274
Application No. 09/415,890

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ON BRIEF

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Before SCHEINER, MILLS, and GRIMES, Administrative Patent Judges.

MILLS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. §134 from the examiner's final rejection of claims 97, 99, 116, 117, 119 and 133, which are the claims on appeal in this application.[1]

The relevant claims read as follows:

97. A method for preparing a pharmaceutically acceptable solvent vehicle, the method comprising:

(a) obtaining a pharmaceutically acceptable dipolar aprotic solvent and/or acid;

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[1] The examiner has objected to claims 121, 122, 141 and 150 but also has indicated that these claims would be allowable if rewritten in independent form. Answer, page 3.

(b) mixing the dipolar aprotic solvent and/or acid in a pharmaceutically acceptable aqueous secondary solvent;
(c) removing more than 50% of the dipolar aprotic solvent and/or acid and aqueous secondary solvent; and
(d) reconstituting the solvent vehicle by the addition of a pharmaceutically acceptable aqueous solvent.

99. The method of claim 97, further comprising the step of dissolving pimaricin in said dipolar aprotic solvent and/or acid prior to mixing in a pharmaceutically acceptable aqueous secondary solvent.

116. The method of claim 97, wherein said secondary solvent comprises aqueous lipid emulsion, water, saline solution, dextrose solution, glacial acetic acid, or lipid solution.

117. The method of claim 116, wherein said secondary solvent comprises an aqueous lipid emulsion.

119. The method of claim 117, wherein said aqueous lipid emulsion comprises an aqueous soy bean lipid emulsion.

133. The method of claim 97, wherein said solvent vehicle comprises anhydrous N,N-dimethylacetamide and aqueous liquid.

The prior art references cited by the examiner are:

| | | |
|---|---|---|
| Janoff | 6,406,713 | June 18, 2002 |
| Szoka | 5,277,914 | Jan. 11, 1994 |

Grounds of Rejection

I. Claims 97, 99, 116, 117 and 119 stand rejected under 35 U.S.C. §102(e) over Janoff.

II. Claims 97, 99, 116, 117, 119 and 133 stand rejected under 35 U.S.C. §103(a) over Janoff in view of Szoka.

We reverse these rejections.

## DISCUSSION

### Anticipation

I. Claims 97, 99, 116, 117 and 119 stand rejected under 35 U.S.C. §102(e) over Janoff.

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). The examiner cites Janoff as evidence in support of a prima facie case of anticipation.

According to the examiner (Answer, page 5),

> Janoff is directed at (summary) substantially liposome free formulations for Administration of polyene antibiotics parenterally, requiring obtaining (instant 97(a) a solvent, (col. 4, lines 48-50) DMSO, for the polyene antibiotics Amphotericin B or (col. 9, lines 36-39) Pimaricin, Candicidin, Filipin or Nystatin. Instant step (b) requires mixing with another solvent, aqueous-Janoff proceeds (lines 56-57) col. 4) to add the aqueous solution to the solvent-drug phase; then evaporate (line 58, col. 4) off solvent (the instant step c, removing over 50% solvent). Finally (lines 61-64, col. 4) as in instant step (d) reconstituting by addition of aqueous solvent is performed. The solvent, carriers, diluents are pharmaceutically acceptable (lines 35-37). Thus the steps of obtaining solvent, mixing with secondary solvent, removing solvent, and reconstituting solvent are shown by Janoff.

In rebuttal, appellants argue that the examiner has failed to present a prima facie case of anticipation. In particular, appellants argue (Supplemental Brief, page 4)

> Turning first to claims 97, 99 and 116, Appellants point out that Janoff

> appears to teach dissolving the drug in DMSO or methanol, so there is no aqueous solvent here (see col. 4, lines 49-50). It also teaches solubilizing lipids in "a solvent such as methylene chloride," (col. 4, lines 50-52) so, again, no aqueous solvent here. It is not until the solvents are "evaporated under reduced pressure" that an aqueous solution is added for the first time. (col. 4, lines 54-56). Janoff does refer to an alternative where the aqueous solvent is added *prior* to evaporation of the solvent (col. 4, lines 56-58), however, here it is stated that only the solvent is removed ("...evaporation of the solvent") and there is no teaching to undertake the addition of a pharmaceutically acceptable aqueous solvent.

We agree with appellants that the examiner has failed to set forth a prima facie case of anticipation. We agree with the examiner that Janoff describes adding the aqueous solution prior to evaporation of the solvent, at column 4, lines 56, which states, "[a]lternatively, the aqueous solution may be added to the solvent-containing drug and lipid phase **prior to** evaporation of the solvent." [Emphasis added.] See also Answer, page 4. However, upon further review of the passage in Janoff relied upon by the examiner as evidence of anticipation, it would appear that the solvent is evaporated (column 4, line 58), however the fate of the aqueous solution remains unclear. In our view the examiner has not pointed to specific evidence within the disclosure of Janoff to meet the claim limitation, "(c) removing more than 50% of the dipolar aprotic solvent and/or acid and aqueous secondary solvent."

Thus, we do not find the examiner has established a prima facie case of anticipation upon sufficient evidence. The rejection of claims for anticipation over Janoff is reversed.

Obviousness

II. Claims 97, 99, 116, 117, 119, and 133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janoff in view of Szoka.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993). An obviousness analysis requires that the prior art both suggest the claimed subject matter and reveal a reasonable expectation of success to one reasonably skilled in the art. In re Vaeck, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). With this as background, we analyze the prior art applied by the examiner in the rejection of the claims on appeal.

It is the examiner's position that (Answer, page 6)

> Janoff teaches the instant invention, but uses solvents such as DMSO (col. 4, lines 49-50). Szoka discloses such solvents to include the instantly claimed DMF (col. 4, line 50, col. 5, lines 8-13), also used with co-solvents and the Janoff instant antibiotics: amphotericin, pimaricin (col. 3, bottom).
>
> It would have been obvious to a person of ordinary skill in the art at the time the invention was made, desiring to prepare stable hydrophobic antibiotic solvent vehicles, to prepare one of Janoff. The particular solvent is seen as one within the purview of the artisan to select, as equivalents taught by Szoka.

The examiner further argues (Answer, page 7)

> Appellants arguments re Szoka are that no prima facie obviousness is shown, however both references show a variety of solvents, and Janoff states that the solvent is chosen as to maximize solution of the particular drug, provide biocompatability and reduce toxicity and flammobility [sic] (col.10, lines 10-13). Szoka's expanded list of solvents is shown to include Janoff's DMSO and alcohols, and DMA (co1.4, lines 46-61). Szoka utilizes these solvents with lipid particles and the instant polyene antibiotics, pimaricin and amphotericin B (col. 3, line 65, 66), of Janoff and the instant invention, thus obvious to substitute if desired with equivalent available solvents having bio compatibility [sic], drug solvation, low toxicity and/or low flammability.

The examiner's rejection as we understand it, primarily relies on Szoka as evidence to support rejection of claim 133. Claim 133 is directed to the method of preparing a pharmaceutically acceptable solvent vehicle (claim 97), wherein the solvent vehicle comprises anhydrous N,N-dimethylacetamide and aqueous lipid.

The examiner, however, points to no evidence in Szoka to make up for the deficiency noted above in Janoff, namely the failure to disclose a step of "(c) removing more than 50% of the dipolar aprotic solvent and/or acid and aqueous secondary solvent." Thus the rejection of claims for obviousness over Janoff in view of Szoka is reversed.

Other Issue for Consideration

While we have not found that the examiner has established a prima facie case of anticipation over the portions of Janoff cited in the Answer, we direct the examiner's attention to Janoff, Column 11, line 58 to Column 12, line 5. This portion of Janoff teaches mixing the lipid and drug in organic solvent (DMSO) with a buffered aqueous

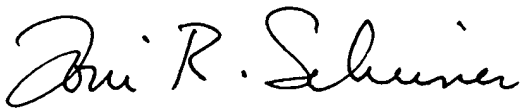
solution (PBS) followed by evaporation of the solvent (DMSO). This portion further states that more PBS is added and then that solution is centrifuged, the supernatant discarded and the pellet (lipid) resuspended in PBS. Because claim 97 does not specify how the solvent and aqueous secondary solvent are removed or require that they are removed by the same method, simultaneously, it would appear that evaporating the solvent and discarding the supernatant comprising the buffered aqueous solution (PBS) would meet the claim limitation "(c) removing more than 50% of the dipolar aprotic solvent and/or acid and aqueous secondary solvent." Upon return of the application to the examiner, the examiner should carefully review the entire disclosure of Janoff. The examiner should determine whether Janoff specifically describes a step of "(c) removing more than 50% of the dipolar aprotic solvent and/or acid and aqueous secondary solvent" and specifically indicate portions of Janoff which describe each claim feature. If appropriate, a rejection of the claims should be made.

## CONCLUSION

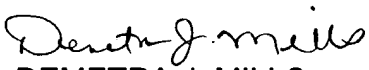
Therefore, we reverse the rejections of the claims under 35 U.S.C. §102(e) over Janoff and under 35 U.S.C. §103(a) over Janoff in view of Szoka. We direct the examiner's attention to the Other Issue for Consideration noted herein.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

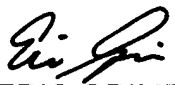
REVERSED



TONI R. SCHEINER
Administrative Patent Judge



DEMETRA J. MILLS
Administrative Patent Judge



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